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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/645,306	08/25/2000	Christoph Glingener	449122000500	3267

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EXAMINER

HAN, CLEMENCE S

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 11/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/645,306

Applicant(s)

GLINGENER ET AL.

Examiner

Clemence Han

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 6, 9 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regarding to claim 6 recites the limitation "said one succeeding the data packet" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

In regarding to claim 9 recites the limitation "said one preceding the data packet" in the last two lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

In regarding to claim 12 recites the limitation “the optical delay element” and “the optical splitter” in the first and the second line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 2 is rejected under 35 U.S.C. 102(e) as being anticipated by Chang et al. (US Patent 6,111,673). Chang teaches the method of converting route information to allocated frequency mixes at the transmitter end (Column 17 Line 31-32), the method of producing route signals by modulating a carrier signal with the frequency mixes (Column 17 Line 35-37), the method of placing the route signal 210 in front of the data packet 211, the method of transmitting the data packet including the route signal (Figure 2), the method of evaluating at the receiver end, the route signals in terms of the frequency mixes used for the modulation (Column 9 Line 35-36) and the method of switching the data packet

using the route information obtained from the frequency mixes (Column 9 Line 38-39).

6. Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by Chang et al.. Chang teaches the transmission unit (Figure 7) and the reception unit (Figure 4), the conversion unit at the transmitter end for converting route information for the data packet to route signals produced by modulating a carrier signal with a frequency mix and for adding the route signals 210 in front of the data packet 211 (Column 17 Line 31-32, 35-36), transmission device for transmitting the data packet including the route signal (Figure 2), the evaluation unit at the receiver end for detecting and evaluating the route signals (Column 9 Line 35-36) and the switching unit for switching through the data packet using the route information ascertained by evaluating the route signals (Column 9 Line 38-39).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. in view of Chang-Hasnain et al. (US Patent 5,541,756).

In regarding to claim 1, Chang teaches the method of converting route information to allocated frequency mixes at the transmitter end (Column 17 Line 31-32), the method of producing route signals by modulating a carrier signal with the frequency mixes (Column 17 Line 35-37), the method of placing the route signal 210 in front of the data packet 211, the method of transmitting the data packet including the route signal (Figure 2), the method of evaluating at the receiver end, the route signals in terms of the frequency mixes used for the modulation (Column 9 Line 35-36) and the method of switching the data packet using the route information obtained from the frequency mixes (Column 9 Line 38-39). Chang, however, does not teach the method of placing the route signal both in front of and after the data packet. Chang-Hasnain discloses the method of placing the route signal both in front of and after the data packet (Figure 1). Chang-

Hasnain uses the route signal 14 in front of the data packet for the routing (Column 4 Line 3) and uses the route signal 16 after the data packet for the termination (Column 4 Line 22). It would have been obvious to one skilled in the art to modify Chang to have the route signal also after the data packet as taught by Chang-Hasnain in order to easily signal the termination.

9. Claim 3 - 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. as applied to claim 2 above, and further in view of Yao (US Patent 5,917,179).

In regarding to claim 3 and 4, Chang teach the use of optical modulator 760. Chang, however, does not specify whether amplitude modulation or phase modulation are used. Yao teaches both the amplitude modulation and the phase modulation of the carrier signal (Column 7 Line 47). It would have been obvious to one skilled in the art to use in Chang's method either the amplitude modulation or the phase modulation as taught by Yao in order to convert the route signal to the optical bandwidth.

In regarding to claim 5, Chang teaches a carrier frequency selected as a data transmission rate (Column 1 Line 66 – Column 2 Line 1). Chang, however, does not teach audio-frequency modulation frequencies for modulating the route signals.

Yao teaches RF for modulating the route signals (Column 7 Line 46) and RF includes audio-frequency. It would have been obvious to one skilled in the art to use in Chang's method audio-frequency modulation frequencies as taught by Yao for easy evaluation at the receiver end.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. as applied to claim 2 above, and further in view of Chang-Hasnain. Chang teaches the method of converting route information to allocated frequency mixes at the transmitter end (Column 17 Line 31-32), the method of producing route signals by modulating a carrier signal with the frequency mixes (Column 17 Line 35-37), the method of placing the route signal 210 in front of the data packet 211, the method of transmitting the data packet including the route signal (Figure 2), the method of evaluating at the receiver end, the route signals in terms of the frequency mixes used for the modulation (Column 9 Line 35-36) and the method of switching the data packet using the route information obtained from the frequency mixes (Column 9 Line 38-39). Chang, however, does not teach the use of the route signal for the termination. Chang-Hasnain discloses the method of placing the route signal after the data packet (Figure 1). Chang-Hasnain also teaches the use of the route signal 16 after the data packet for the termination

(Column 4 Line 22). It would have been obvious to one skilled in the art to modify Chang to have the route signal also after the data packet as taught by Chang-Hasnain in order to easily signal the termination.

11. Claim 7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. in view of Chang-Hasnain et al..

In regarding to claim 7, Chang teaches the transmission unit (Figure 7) and the reception unit (Figure 4), the conversion unit at the transmitter end for converting route information for the data packet to route signals produced by modulating a carrier signal with a frequency mix and for adding the route signals 210 in front of the data packet 211 (Column 17 Line 31-32, 35-36), transmission device for transmitting the data packet including the route signal (Figure 2), the evaluation unit at the receiver end for detecting and evaluating the route signals (Column 9 Line 35-36) and the switching unit for switching through the data packet using the route information ascertained by evaluating the route signals (Column 9 Line 38-39). Chang, however, does not teach the method of placing the route signal both in front of and after the data packet. Chang-Hasnain discloses the method of placing the route signal both in front of and after the data packet (Figure 1). Chang-Hasnain uses the route signal 14 in front of the data packet for the

routing (Column 4 Line 3) and uses the route signal 16 after the data packet for the termination (Column 4 Line 22). It would have been obvious to one skilled in the art to modify Chang to have the route signal also after the data packet as taught by Chang-Hasnain in order to easily signal the termination.

In regarding to claim 10, Chang-Hasnain discloses the optical splitter 20 at the receiver end for isolating part of a data packet stream 10, said part 22 being forwarded to the evaluation unit.

In regarding to claim 11, Chang-Hasnain discloses the optical delay element 38, at the receiver end, for delaying the data packet stream by a minimum length, said minimum length comprising a switching time required for evaluating a preceding one of the route signals and a switch time required for switching through a route (Column 6 Line 23-35).

In regarding to claim 12, Chang-Hasnain discloses the optical delay element 38 arranged between the optical splitter 20 and the switching unit 34.

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. as applied to claim 2 above, and further in view of Cotter et al. (US Patent 5,912,753). Chang teaches the transmission unit (Figure 7) and the reception unit (Figure 4), the conversion unit at the transmitter end for converting

route information for the data packet to route signals produced by modulating a carrier signal with a frequency mix and for adding the route signals 210 in front of the data packet 211 (Column 17 Line 31-32, 35-36), transmission device for transmitting the data packet including the route signal (Figure 2), the evaluation unit at the receiver end for detecting and evaluating the route signals (Column 9 Line 35-36) and the switching unit for switching through the data packet using the route information ascertained by evaluating the route signals (Column 9 Line 38-39). Chang, however, does not teach the synchronization unit or the use of the route signal for the purpose of clock synchronization. Cotter teaches the synchronization unit (Figure 18) or the use of the route signal for the purpose of clock synchronization (Column 17 Line 33-38). It would have been obvious to one skilled in the art to modify Chang to use route signal for the purpose of clock synchronization as taught by Cotter in order to ensure that the signal from the evaluation unit will take effect only at the correct time.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to the optical data routing.

U.S. Patent 5,488,501 to Barnsley

U.S. Patent 4,939,721 to De Bosio

U.S. Patent 5,278,689 to Gitlin et al.

U.S. Patent 4,970,717 to Haas


U.S. Patent 4,845,702 to Melindo

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (703) 305-0372. The examiner can normally be reached on Monday-Friday 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Clemence Han
Examiner
Art Unit 2665



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600